

REMARKS

Upon entry of the Amendment, claims 1-9, 11-19, 21-29, 34-35, 38, 41-49, 51-59, 61-62 are pending in the application. Claims withdrawn from consideration are claims 4, 5, 8, 14, 15, 18, 24, 25, 28, 34, 38, 44, 45, 48, 54, 55, and 58. Claims 10, 20, 30-33, 36, 37, 39, 40, 50, 60 and 63 have been canceled. Claims 1, 11-13, 16, 17, 19, 21-23, 26-29, 41-43, 46-47, 49, 51-53, 56-57, 59, and 61 have been amended. Claim 1 has been amended to incorporate the subject matter of canceled claim 10. Claim 11 has been amended to incorporate the subject matter of canceled claim 20. Further, claims 1, 11, 41-43, 46-47, 49, 51-53, 56-57, 59, and 61 have been amended to improve the clarity thereof. Therefore, no new matter has been added.

I. Sequence Rules Compliance

At pages 2-3 of the Office Action, the Examiner states that the specification does not comply with the rules regarding nucleic acid and amino acid sequences because the sequences in the specification and figures are not identified by sequence identifiers.

In response, Applicants include herewith amendments to the Drawings, inserting sequence identifiers where appropriate.

Applicants also include herewith a Sequence Listing that includes all of the polynucleotide and polypeptide sequences in the application that fall within the rules governing sequences (37 C.F.R. §1.821(a)). Applicants request entry of the same.

In view of the amendments to the Drawings and the Sequence Listing, reconsideration and withdrawal of this objection are respectfully requested.

II. Claim Rejections - 35 U.S.C. § 101

Claims 1-3, 6-7, 9-13, 16-17, 19-23, 26-27, 29-33, 36-37, 39-40, and 62-63 have been rejected under 35 U.S.C. § 101, allegedly because the claimed invention is directed to non-statutory subject matter.

Applicants turn to the USPTO Guidelines revised subsequent to the decision in *Ex parte Lundgren*, Appeal No. 2003-2088. (See generally [Guidelines101_20052026.pdf](#) which can be located at www.uspto.gov)

According to the USPTO Guidelines, the first prong of the analysis is to determine whether the claim is directed toward at least one of the enumerated subject matter categories – a process, a machine, a manufacture or a composition of matter. The second prong of the analysis is to determine whether the claim is directed to an excluded subject matter, which are: a law of nature, a natural phenomenon, or an abstract idea.

The examination guidelines suggest that one way to avoid a rejection based on excluded subject matter is to present a claim that is directed to a “practical application.” Under the guidelines, there are two ways to determine whether a practical application claim falls within the safe harbor of practical application for excluded subject matter. One way is to determine whether the claimed invention transforms an article to a different state or thing. The alternate way, is to determine whether the claimed invention otherwise produces a useful, tangible and concrete result. A useful result is one that is specific, substantial and credible. Tangible results are real world results. Concrete results are those that can be repeatable.

Claim 1 is drawn to a method. Claim 11 is drawn to a device. Therefore, the first requirement under the guidelines that the claims must recite an enumerated subject matter is satisfied.

As noted above, under the guidelines, the second prong involves determining whether the claimed invention (1) transforms an article to a different state or thing or (2) produces a useful, tangible and concrete result. In the present case, claim 1 recites *inter alia* displaying the plurality of similar nucleotide sequences or amino acid sequences, visual characteristics, and links. Further, claim 11 recites *inter alia* displaying the plurality of similar nucleotide sequences or amino acid sequences, visual characteristics, and links. The display provides for a useful, concrete, and tangible result. Such a display is useful, as the added visual characteristics convey information regarding the similarities or mutations of said nucleotide or amino acid sequences. There is nothing to indicate that the results cannot be repeatable. The display is tangible as the information regarding the similarities or mutations of said nucleotide or amino acid sequences is readily available for the operator to use. In this regard, the claimed method provides for a useful, concrete, and tangible result.

Claims 2-3, 6-7, and 9 depend directly or indirectly from claim 1. Claims 12-13, 16-17, and 19 depend directly or indirectly from claim 11. Therefore, claims 2-3, 6-7, 9, 12-13, 16-17, and 19 are directed to statutory subjected matter for at least the same reasons as claims 1 and 11.

Claim 21 presently recites a sequence display program product comprising a computer readable medium having instructions, said instructions facilitating a computer to perform the steps described in claim 1. As claim 21 is drawn to a product, claim 21 recites an enumerated

subject matter. Further, the program product recited in claim 21 provides for the same result provided by the method recited in claim 1. Therefore, the program product recited in claim 21 provides for a “practical application” for at least the same reasons as claim 1.

Similarly, claims 22-23, 26-27, and 29 presently recite a sequence display program product facilitating a computer to perform the steps described in the steps described in any one of claims 2-3, 6-7, and 9. As described above, claims 2-3, 6-7, and 9 depend directly or indirectly from claim 1. In this regard, sequence display program products recited in claims 22-23, 26-27, and 29 provide for “a practical application” for at least the same reasons as claim 1.

Claim 41 is drawn to a homology search method and recites features in addition to the method recited in claim 1. In this regard, the method recited in claim 41 provides for a “practical application” for at least the same reasons as claim 1.

Similarly, claims 42-43, 46-47, and 49 are drawn to homology search methods and recite features in addition to the method recited in claim 1. In this regard, claims 42-43, 46-47, and 49 provide for a “practical application” for at least the same reasons as claim 1.

Claim 62 presently recites a sequence display program product comprising a computer readable medium having instructions, said instructions facilitating a computer to perform the steps described in the steps described in claim 41. As claim 62 is drawn to a product, claim 62 recites an enumerated subject matter. Further, the program product recited in claim 62 provides for the same result provided by the method recited in claim 41. Claim 41 has not been rejected.

III. Claim Rejections - 35 U.S.C. § 112

Claims 1-3, 6-7, 9-13, 16-17, 19-23, 26-27, 29-33, 36-37, 39-43, 46-47, 49-53, 56-57, and 59-63 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

Claims 1 and 11 presently recite adding visual characteristics to the plurality of similar nucleotide sequences or amino acid sequences according to said information relating to said mutations or similarities. In this regard, claims 1 and 11 are now clear that the visual characteristics are added to the plurality of similar nucleotide sequences or amino acid sequences.

Further, claims 1 and 11 recite accepting a plurality of similar nucleotide sequences or amino acid sequences. Therefore, claims 1 and 11 possess antecedent basis for plurality of similar nucleotide sequences or amino acid sequences.

Furthermore, claims 41-43, 46-47, 49 now explicitly recite the first to third steps. In this regard, claims 41-43, 46-47, 49-53, 56-57, and 59-63 recite the steps with sequential designations starting from the first step.

Claims 51-53, 56-57, 59, and 61 now explicitly recite the first to third means. In this regard, Claims 51-53, 56-57, 59, and 61 recite the means with sequential designations starting from the first means.

Claim 62 does not explicitly recite a fourth, fifth, sixth, or seventh means or steps.

IV. Claim Rejections - 35 U.S.C. § 102

Claims 1-3, 6-7, 9-13, 16-17, 19-23, 26-27, 29-33, 36-37, and 39-40 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Thompson *et al.* Nucleic Acids Research, Vol. 25, pages 4876-4882, 1997 ("Thompson").

Claim 1 presently recites adding links between a plurality of similar nucleotide sequences or amino acid sequences and relevant information.

Figure 1 of Thompson shows an alignment of some EFTU proteins. Figure 1 fails to show that the alignment of EFTU proteins have links added thereto. Therefore, Thompson fails to describe the method recited in claim 1.

Claims 2-3, 6-7, 9, 21-23, 26-27, 29, 31-33, 36-37, 39 depend from claim 1. Therefore claims 2-3, 6-7, 9, 21-23, 26-27, 29, 31-33, 36-37, and 39 are novel for at least the same reasons as claim 1.

Claim 11 presently recites a means for adding links between a plurality of similar nucleotide sequences or amino acid sequences and relevant information. As described above, Figure 1 of Thompson fails to show that the alignment of EFTU proteins have links added thereto. Therefore, Thomson fails to describe a means for adding the links.

Claim 12-13, 16-17, and 19 depend from claim 11. Therefore, claim 12-13, 16-17, and 19 are novel for at least the same reasons as claim 11.

V. Claim Rejections - 35 U.S.C. § 103

Claims 41-43, 46-47, 49-53, 56-57, and 59-63 have been rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Zhang *et al.*, Genomic Research, Vol. 7, pages 649-656, 1997 ("Zhang"), in view of Thompson.

Zhang is deficient is that it fails to teach displaying the search results using a method as recited in claim 1. Thompson is relied upon to make up for this deficiency. However, Thompson is deficient in that it fails to teach adding links between a plurality of similar

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nucleotide sequences or amino acid sequences and relevant information. In this regard, Thompson fails to make up for all of the deficiencies of Zhang. Reconsideration and withdrawal of the rejection is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

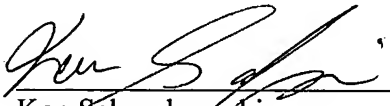
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